Technologist Training Guide
Synthesis PACS

High Plains Radiology
Transition Date: mid-July 2025

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1. Introduction

Video: 00:01

Welcome to the Technologist Training for Synthesis PACS. This guide provides basic step-by-step instructions to help you navigate the platform as High Plains Radiology transitions from Merge Unity PACS to Synthesis PACS in July 2025.

We are very excited to make this transition and have put in a lot of work to make this as easy and seamless for our most important users, YOU! Techs play a very important role in the exam & reading process not only for actual imaging but the data that comes along with the exam. You are the final check, you get the angry calls when info is wrong, so it is up to you as a tech to make sure you are sending accurate info with each and every exam. Luckily, we've made it even easier to do so!

Accompanying this training material is a follow-along video which you can find here:

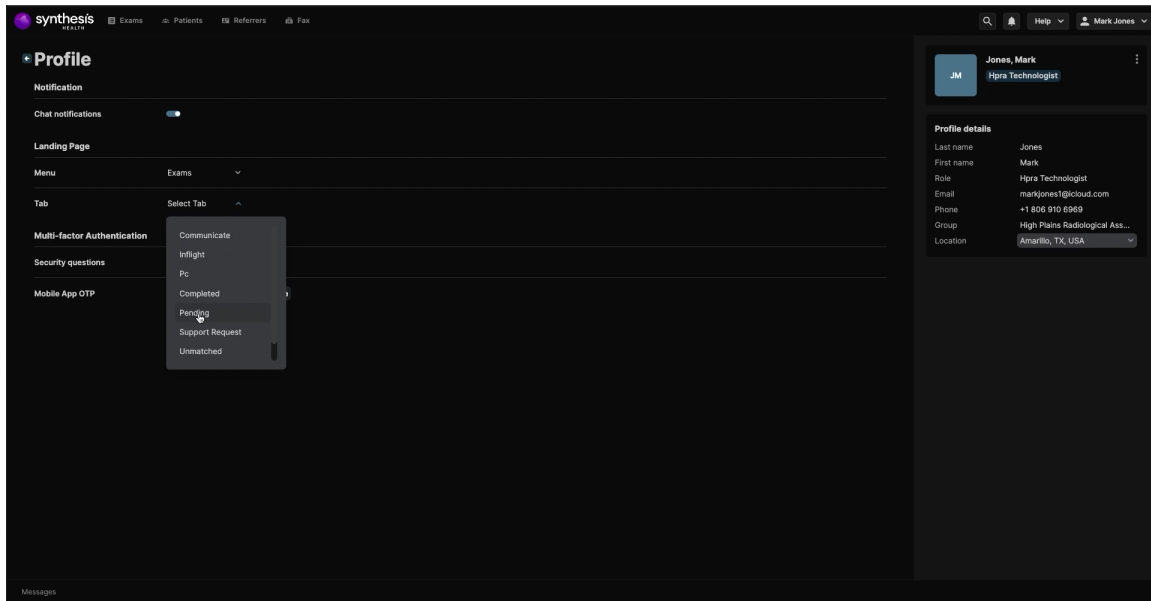**www.highplainsradiology.com/tech-training-synthesis**
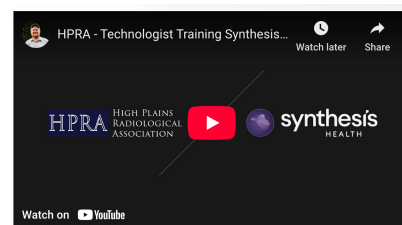
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2. Logging In & Initial Setup

Video: 00:12

To log in:

- Enter your email and click Submit
- Enter your password

You will land on the Profile page by default

- Change your landing page to 'Exams'
- Under 'Select Tab', choose 'Pending'
- Set your location to ensure correct time zone

Change your landing page from "profile" to "exams". Then choose "pending". The pending tab is where you'll spend most of your time as a tech, and it's where we want to land each time we log in. If you do not change your landing page, you will see this profile page every time you log in... not ideal, so please change it.

You can also change your name and email, add a phone number if you want, and update your location at any time. The location sets your time zone, so if you're in a different time zone, please set this so your times display correctly in the system.

*Note: this is the same for other users such as ref docs, nurses, etc. – although they will not be using the Pending tab, so they should choose the Completed tab most likely.

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3. Help Menu
Video: 00:58
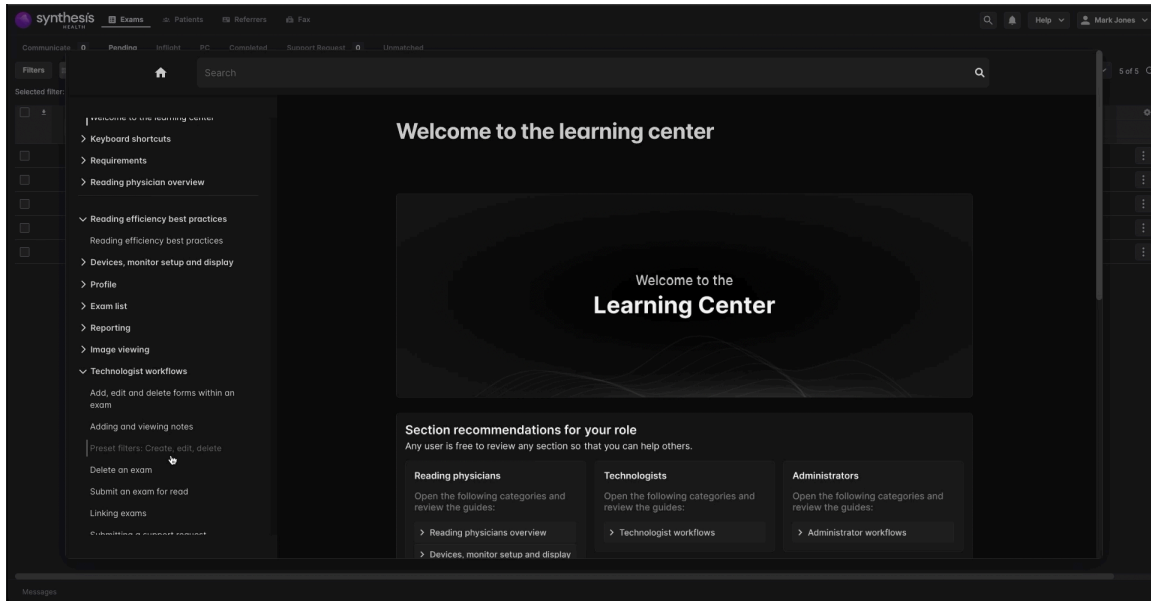
We encourage ALL users to use the Help menu. It is very nice, informative, and easy to use. You will be able to find most everything you need in the help menu.

Summary:

- Take a 'Guided Tour'
- Explore the Learning Center for shortcuts, setup, and more
- Take the Basic User Training (Technologist) quiz

*We encourage everyone who uses this system, whether that be techs, ref docs, or radiologists to use the help menu. It's an **excellent** resource. Spend some time in here as much as possible, and you will become an expert!*

Please read the Basic User Training (Technologist) and take the quiz. It's short, and very useful. We strongly believe that if you utilize the help menu and take these steps, you will be much more comfortable on day one and after.

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4. Pending Tab (Tech Workflow)
Video: 02:14

The Pending tab functions similarly to the 'In Progress' tab in Merge. This is your main workspace as a technologist.

Summary:

- Preset filters by modality are at the top of the page
- View images only by clicking the 'eyeball'
- Single click on an exam to open it
- Review images, verify patient & exam info, fill out forms
- Make any corrections needed if fields show a red alert
- Submit exam to radiologists

At each facility, there is a DICOM router installed either on the old HPRA 'catapult' computers, or installed on a server managed by your facility. All exams are sent from either your PACS (preferred) or modalities, to the DICOM router, and then compressed and uploaded to Synthesis automatically. During upload, they will show up in the Pending tab and if refreshed, the image counter will go up. Sometimes the image counter does not update or can be wrong, so please verify your images by viewing them. That is a standard radiology tech best practice.

We have sent several test exams (migrated ~ 1 million) and have seen the average for sending exams is only a few minutes… even tomo mammos!

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Pending Tab (Tech Workflow) – (continued)

When opening an exam, first go to the 'Exam Information' tab. Ensure all fields are populated correctly. Pay special attention to referring doctor, exam code, and patient demographics, and reason for exam. If anything is missing or incomplete, there will be a red exclamation next to it. You will have to add or correct the info in order to submit the exam to the radiologists. **Reason for exam is required on every exam**.

HL7 Interfaced Facilities:

- HL7 orders are automatically attached to the DICOM images if the accession numbers match (and they should!)
- Orders first go to the 'Unmatched' tab where they await the DICOM images and then auto-attach
- A good indicator that the HL7 order attached, is whether the reason for exam is filled in or not – if it is missing then it is very likely we did not get the order or there is an issue with it
- Reports send out the same as before

Non-HL7 Interfaced Facilities:

- Orders are automatically created based on info from the DICOM header (images themselves)
- Accession number can NOT be changed once sent to Synthesis
- Wrong info on your modality = wrong info in PACS
- Automatic exam code mapping: the system will use some AI magic to convert your exam description to a standardized exam code in Synthesis – if for some reason it cannot, you must pick one manually
- You must add the reason for exam manually (very rare, but some modalities can send this in DICOM)
- Much easier than before!

5. Tech Forms

Video: 04:31

Certain exams will have 'Tech Forms' attached to them so the tech can include needed information for the radiologist to read the exam. You are already doing this, but on paper forms. In Synthesis, you will use the digital forms instead. We have tried to make each form as detailed as possible while still being easy to use. Any information not entered will not submit to the radiologist.

- Applicable to some but not all of: US, MG, NM, BMD, CT (radiation/contrast info)
- Before submitting an exam, **check the Current Forms tab** for any fillable forms
- Some forms have required fields, you cannot submit unless filled
- You must click **Complete** to save the form
- Forms can be modified on the Inflight (unread) tab as well, but not ideal

If your modality is able to send SR data, we can use that data to automatically fill out most forms. Although, this may not be available until August 2025.

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6. Uploading Documents
Video: 05:43
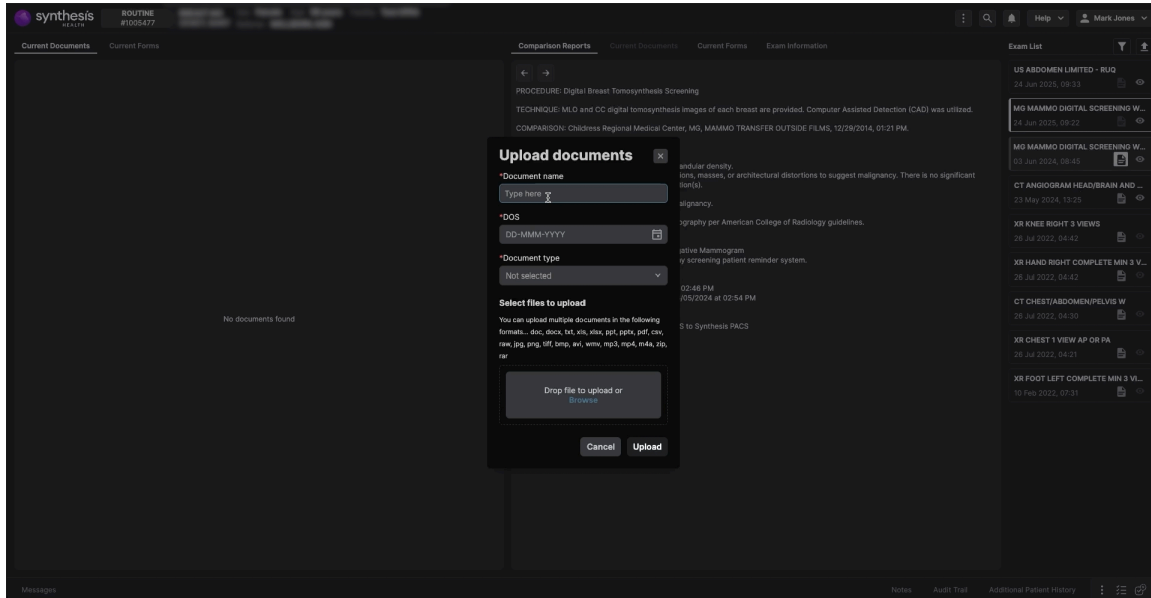
Most new exams will not need a document scanned in, but you will need to upload reports for any priors you send. The report must be uploaded with this workflow and not added to the DICOM images.

Some mammo exams may require uploading of documents.

To upload documents:

• Click the three dots on the exam
• Select 'Upload Documents'
• Enter required information
• Drag to upload or choose the file

Scanning:

• You can use any scanner on any computer
• Not a native scanning app like Merge
• Scan to a file, and save to a folder (e.g. 'Downloads' or 'Documents')
• Upload using the above instructions

7. The Inflight Tab (unread exams)
Video: 06:12

The Inflight tab shows all exams unread, ready for radiologists to view. Much like the Pending tab and others, you can view quick details of all exams, use filters, sort, search, and so on. Clicking on any exam will take you to the exam details where you can make changes if needed.

- Make changes if needed (except accession number)
- See which radiologist has the exam in worklist
- See who has exam locked
- View Due times

Unread and Read exams are in different locations in Synthesis, and Inflight is unread or needing addendum only. You will not find read exams here.
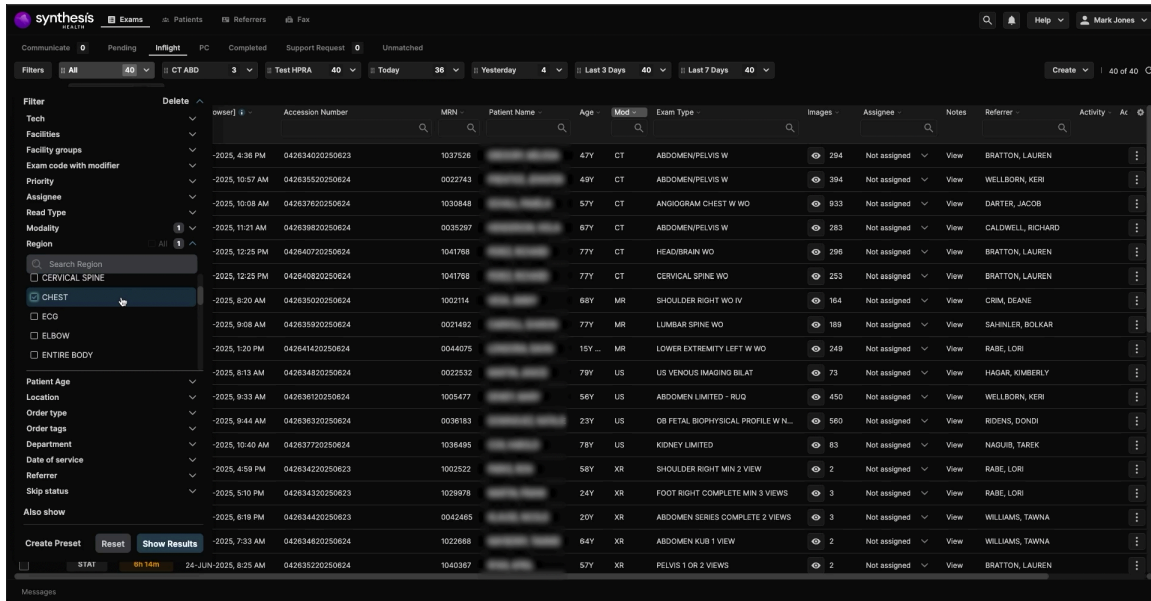
Addendums:
- You may request an addendum for any exam (from Completed tab)
- Exam shows back here, the Inflight tab
- Radiologist sees the exam and request and can make an addendum
- Exam leaves Inflight tab and goes to Completed

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8. Filtering, Sorting, Custom Views

Video: 07:28

You can customize your view in many ways and search efficiently:

• Click the cogwheel to add/remove and sort columns
• Create presets (e.g., 'XR Chest' showing only x rays of the chest body region)
• Sort by any column ascending or descending
• Columns with a magnifying glass can be searched (e.g., searching by patient name)
• Can search multiple columns at once
• Your settings will follow you anywhere (saved between computers)

Some tabs share filter presets and others do not. Example: presets on the Inlfight tab are different from the Completed tab.
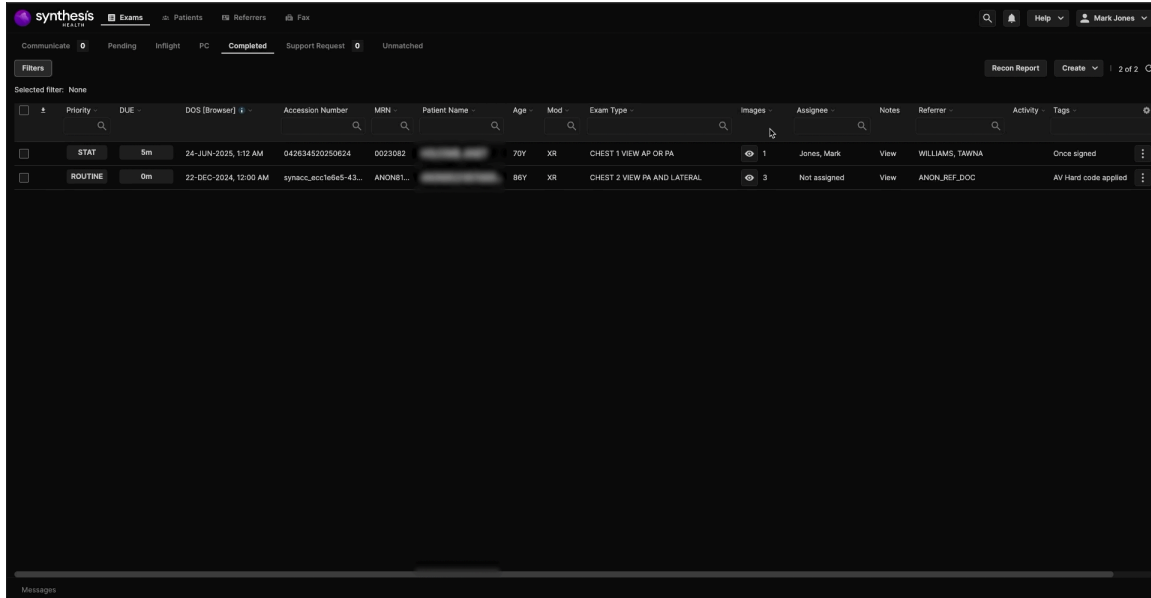
The UI is always dark and cannot be changed.

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9. Completed Tab (read exams)
Video: 08:23

The Completed tab shows read exams as well as any uploaded prior exams, whether read by HPRA or not.

- ***Priors will automatically come straight to Completed if they are more than 30 days old***
- Addendums can be requested from here (3 dot menu, "Request Addendum")
- Click exam to open and view report
- Can copy/paste report or view PDF report
- Can resend ORU or Fax from here (right click, "Resend Report")

We will no longer use "connect.highplainsradiology.com" for PACS access; everyone will use Synthesis. Ref docs and some other users will see less, but have the same functions.

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10. Unmatched Tab (HL7 orders)

Video: 09:01

Like the Scheduled tab in Merge, the Unmatched tab is simply where your HL7 orders are shown. If there is any issue on the Pending tab with an exam, you can come to Unmatched to see if the order is there. Then the issue can be determined.

- Only used for HL7 interfaced facilities
- Orders will auto-match to exams in Pending tab if info matches
- Once matched, they leave the Unmatched tab
- Can pre-fill forms from here if wanted, but not necessary
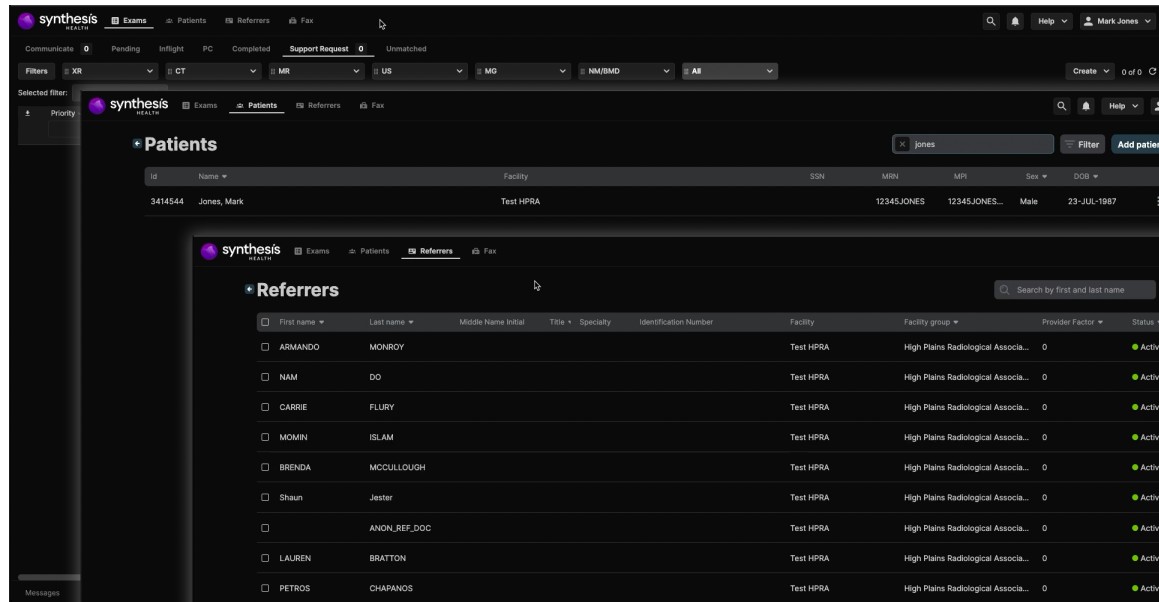
As mentioned before, if on the Pending tab your exam is missing info and that is a good indicator of a missing HL7 order. You can check the Unmatched tab for the order, and then call HPRA IT to check for any issues.

11. Misc - Support Request, Patients, Referrers, etc.
Video: 09:26

Support Request:

The support request tab is used by techs and radiologist to fix exams that are incomplete or problematic. If a radiologist opens an exam and finds an issue, such as a missing series on a CT, they can pause reading and send the exam to Support Request. The tech then goes to the Support Request tab and fixes the issue and resolves the request. Once you fix the issue, the exam returns to the Inflight tab and reassigns to the original radiologist.

- To add images to an exam in Support Request, simply send what is missing
- If accession numbers match, images will auto-merge to the exam
- You are responsible to fix your exams
- Please **pay attention to the Live Count on the Support Request tab** (higher than zero means you have exams to fix)
- You may get a call informing you there is an exam sent to Support Request

Patients:

- Typical place to find patients, their exams, and modify patient info

Referrers:

- Place to find and modify your ref docs (add or modify fax, etc)

Do not pay attention to the Fax tab for now, it will not be used much. Reports can be auto-faxed but limited info available to techs.

12. Adding Notes to Exams

Video: 10:18

The way notes are used in Synthesis will be updated *very* soon, but currently techs can add free-text notes under the notes bottom tab inside each exam. Once you enter text and click Save, your name and timestamp will appear with the note and be available to the radiologist.

- Currently not like notes in Merge
- Very simple, basic
- More features coming soon – tasks, tags (note types, etc)
- Will not show on report

Notes are very basic at the moment, but there will be several features added in regards to exam notes in the very near future, possibly by the time you are using Synthesis. We will reach out and show you how that works when it is available.

13. Conclusion

Video: 10:42

Hopefully this guide and video provided enough detail to get you started and send exams successfully. The help menu in Synthesis can provide more detail and we strongly suggest using it. As always, feel free to contact HPRA IT and we will help.

We can't wait to hear your feedback on this new PACS!

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